

## AUTHOR INDEX

**Canadian Journal of Animal Science, Volume 68, 1988**

---

- Ackman, R. G., 533, **1324**  
Adams, D. C., 29  
Adeola, O., 503  
Aherne, F. X., 225, 591, 865, 979, 1105, 1113  
Allen, J. G., **1324**  
Allen, O. B., 1069  
Amal, S., 107  
Anderson, D. M., **1326, 1328**  
Armstrong, D. T., **1322**  
Atwal, A. S., 801  
Avery, T. B., 419  
Ayers, E., 439  
  
Bailey, D. R. C., 961, 1027  
Ball, R. O., 711, 721  
Baron, V. S., 1195  
Batra, T. R., 549  
Beacom, S. E., 1131  
Beames, R. M., 873  
Bedford, M. R., 899  
Bell, J. M., 493, 931  
Bhatti, R. S., 1261  
Bilodeau, P. P., **1327**  
Blair, R., 283, 523  
Boila, R. J., 573, 853, 1143  
Brazeau, P., 689, 699, 731, 741  
Brisson, G. J., 311  
Burrows, V. D., 511  
Bush, R. S., 1245, **1323**  
Butler, G., 511, 1125  
  
Calder, F. W., **1320**  
Campbell, G. L., 1253, 1261  
Carter, R. R., 305  
Casper, D. P., 1309  
Castell, A. G., 265, 275, 577  
Caston, L. J., 881, 915, 923  
Chai, K., 387  
Charuest, J.-P., 1001, 1015  
Cheng, K.-J., 165, 751  
Chiquette, J., 751  
Christen, A.-M., 1187  
Christison, G. I., 191  
Christopherson, R. J., 399, 973, 1105, 1113  
Cinq-Mars, D., 311  
Clark, A. K., 987  
  
Classen, H. L., 1253, 1261  
Cliplef, R. L., 151, 265, 275, 969  
Cohen, R. D. H., 965, 1301  
Connor, M. L., **1321**  
Cook, S. J., 1089  
Costello, W. J., 1309  
Costerton, J. W., 751  
Coulter, G. H., 961  
Couture, Y., 699, 731, 741  
Crober, D. C., **1321, 1325, 1326**  
Crow, G. H., 107  
Croy, D. S., 461  
Cunningham, B. E., 83  
Cunningham, J. D., **1325**  
Currie, W. D., 1089  
  
Darroch, C. S., 931  
de Boer, G., 811  
De Passille, A. M. B., 325, 689  
De Rose, E. P., 49  
Dean, P. R., 233  
DeBoer, H., 1155, 1163  
Delisle, J., 993  
Devlin, T. J., 769  
Dinkel, C. A., 129  
Donetz, M., 107  
Drackley, J. K., 987  
Drevjany, L. A., 1069, **1324**  
Drew, M. D., 1277  
Dubreuil, P., 689, 699, 731, 741  
Duff, G. C., 569  
Dufour, J. J., 69, 669, 1001, 1015, 1297  
Dupuis, G., 787  
Dyck, G. W., 1, 377, 983  
  
Early, R. J., 711, 721  
Elofson, R. M., 1209  
Endres, B., 225  
Entz, T., 1027  
Erfle, J. D., 801  
Etches, R. J., 1267  
Evans, F. D., 1105, 1113  
Evenson, D. P., 367  
  
Fadel, J. G., 891  
Fahmy, M. H., 69  
Fairfull, R. W., **1321**

Page numbers in **boldface** refer to abstracts.

- Farnworth, E. R., 249  
Fengler, A. I., 483  
Finley, G. G., 1319  
Firth, N. L., 1324  
Fisher, L. J., 873  
Flipot, P. M., 997, 1121  
Forsberg, N. E., 409  
Fortin, A., 511, 1125  
Fraser, D., 41, 581, 603  
Fredeen, A. H., 1323  
Fredeen, H. T., 15, 619, 647, 1171  
Friars, G. W., 611  
Friend, D. W., 511  
Fulton, N. R., 1322
- Garnett, I., 57  
Gaudreau, P., 689, 699, 731, 741  
Gee, D. H., 367  
Gibson, D. M., 471  
Giguere, F., 993  
Girard, C. L., 455  
Girard, V., 787  
Goetsch, A. L., 569  
Gonzalez, R. A., 359  
Gooneratne, A. D., 283, 1097  
Gordon, S. J., 367  
Goubau, C., 1327  
Goulet, G., 311  
Graham, H., 891  
Grandhi, R. R., 941  
Grasso, F., 1297  
Greer, G. G., 1195  
Grimson, R. E., 205  
Grinwich, D. L., 565, 969  
Grootwassink, J. W. D., 1253  
Grofum, W. L., 305, 561  
Guedo, B. L., 1097  
Guilbault, L. A., 669
- Hacker, R. R., 1155, 1163  
Hall, J. W., 431  
Hanford, K., 439  
Harbison, D. S., 355  
Hardin, A. C., 569  
Harmon, D. L., 419  
Hart, S. P., 1305  
Hartsock, T. G., 325  
Hidioglou, M., 1320  
Hironaka, R., 199  
Hooper, G. S., 1319  
Howarth, R. E., 431  
Hulan, H. W., 257, 533, 1285  
Huntington, G. B., 419  
Hurnik, J. F., 339, 549
- Irwin, L. N., 611
- Jackson, E. D., 1285  
Jamrozik, J., 639  
Janzen, E. D., 1301  
Jeffcoate, I. A., 1089  
Johnson, P. L., 1069, 1319  
Jones, Y. M., 873  
Jones, S. D. M., 139, 677  
Julian, R. J., 611
- Kalnin, C. M., 431  
Kaneps, A. J., 409  
Karimi, A. R., 1305  
Karlsson, B. W., 953  
Keith, M. O., 493, 931  
Kelly, J. M., 399, 973  
Kemp, R. A., 291  
Kennedy, A. D., 655  
Kennelly, J. J., 471, 779, 811, 831, 839  
King, B. D., 1301  
Kirkwood, R. N., 283, 979, 1097  
Kondo, S., 339  
Koots, K. R., 965  
Korsrud, G. O., 1131  
Kott, R., 439  
Kramer, J. K. G., 249, 511  
Kubisch, H.-M., 1035
- Laarveld, B., 1097  
Laflamme, L. F., 1237, 1320, 1323, 1326  
Lall, S. P., 1325  
Landis, K. M., 569  
Lapierre, H., 699, 731, 741  
Lapierre, J., 1327  
Lawson, J. E., 15, 557, 619, 647, 1171  
Lee, A. J., 295  
Leeson, S., 241, 881, 907, 915, 923, 1155, 1163, 1267, 1315  
Lin, C. Y., 1291  
Lurette, A., 399, 973, 1323  
Luescher, U. A., 549  
Lun, A. K., 503
- MacGregor, H. E., 1322  
MacKeigan, B., 1321  
MacNeil, J. D., 1131  
Magee, W. T., 83  
Majak, W., 315, 431  
Makarechian, M., 1035  
Mandell, I. B., 191  
Manns, J. G., 1079  
Marquardt, R. R., 483  
Mason, W. N., 1121  
Mathison, G. W., 387, 471, 811, 831, 1209

- Matte, J. J., 455  
 Matton, P., 1297  
 McAllister, A. J., 1291  
 McBride, B. W., 711, 721  
 McCaughey, W. P., 1079  
 McKay, R. M., 57, 93, 151, 969  
 McKnight, D. R., 1319, 1324  
 Mears, G. J., 165  
 Miller, H. L., 367  
 Milligan, L. P., 387, 399, 751, 973, 1209, 1323  
 Minvielle, F., 1051, 1063  
 Mir, P. S., 821  
 Mir, Z., 761, 821, 1131  
 Misir, R., 523  
 Mitaru, B. N., 283  
 Morisset, J., 699, 731, 741  
 Mount, K., 577  
 Mowat, D. N., 205  
 Murphy, B. D., 359  
 Murray, A. C., 139  
  
 Nagai, J., 1291  
 Neden, L. R., 577  
 Nelson, J. R., 205  
 Newman, J. A., 15, 557, 619, 647, 677, 1171  
 Newman, C. W., 891  
 Newman, R. K., 891  
 Nicholson, J. W. G., 233, 1320, 1324  
 Nicholson, H. H., 191, 205, 965  
 Nilsson, B., 953  
 Nunn, T., 1326  
  
 Onischuk, L. A., 655  
 Ouellet, G., 997  
 Owen, B. D., 1277  
 Owens, F. N., 1305  
 Ozimek, L., 225  
  
 Page, S., 1001, 1015  
 Pass, M. A., 315  
 Patterson, D. L., 1326  
 Pawlik, J. R., 483  
 Peeters Weem, W. B., 603  
 Pelletier, G., 689, 699, 731, 741  
 Peters, H. F., 345  
 Petit, H. V., 993  
 Petitclerc, D., 699, 731, 741  
 Pettipas, B., 1326  
 Phillips, G. D., 853  
 Phillips, P. A., 41, 603  
 Pierzynowski, S. G., 953  
 Portella, F. J., 915, 923  
 Poste, L. M., 511  
  
 Price, M. A., 1035  
 Proudfoot, F. G., 257, 533, 1285  
 Proulx, J. G., 1125  
  
 Rahnefeld, G. W., 15, 93, 557, 619, 647, 1041, 1171  
 Ratnayake, W. M. N., 533  
 Rawlings, N. C., 1089  
 Reasbeck, L. M., 1069  
 Reynolds, P. J., 419  
 Richards, J. E., 205  
 Riebold, T. W., 409  
 Robert, S., 689  
 Robertson, W. M., 139  
 Robinson, A. R., 1321  
 Robinson, J. B., 183  
 Robinson, P. H., 779, 831, 839  
 Rode, L. M., 445, 461  
 Rollins, D. G., 1309  
 Rossnagel, B. G., 1261  
 Rushen, J., 325  
 Rutter, L. M., 1079  
  
 Sahlu, T., 987  
 Sanford, L. M., 565  
 Sather, A. P., 139, 355, 677  
 Satter, L. D., 445  
 Savoie, Y., 1051, 1063  
 Schaefer, A. L., 677  
 Schaeffer, L. R., 291, 639  
 Schingoethe, D. J., 987, 1309  
 Seoane, J. R., 1187  
 Shand, J. A., 1325  
 Sharma, B. K., 987  
 Sharpe, P. H., 1322, 1327  
 Short, R. E., 29  
 Smith, E. G., 1041  
 Smulders, J. A. H. M., 503  
 Snoddon, P. M., 233  
 Spencer, K. E., 1321  
 Spicer, H., 225  
 Spratt, D., 241, 907, 1315  
 St-Laurent, A.-M., 1320  
 St-Pierre, N., 689  
 Stilborn, R. P., 205  
 Stobbs, L. A., 205  
 Stokes, S. R., 569  
 Strasdine, G. A., 873  
 Sullivan, P. G., 299  
 Summers, J. D., 241, 881, 899, 907, 1267, 1315  
 Svendsen, J., 953  
 Swierstra, E. E., 1027  
  
 Tang, W., 1326, 1328

- Tekpetey, F. R., 655  
Tennessen, T., 1327  
Thacker, P. A., 283, 1097  
Thomas, V. M., 439  
Thompson, B. K., 41, 581, 603  
Tong, A. K. W., 355, 557, 677  
Troelstra, R., 1320  
Trudeau, V. L., 565  
Trus, D., 119  
  
Van Doormaal, B. J., 299  
Van Lunen, T. A., 1321  
Van Ryswyk, A. L., 431  
Veira, D. M., 1125  
Vesely, J. A., 165, 345  
Villeneuve, P., 669  
Virchez, J., 1187  
  
Wagemans, V., 1155  
Walker, B., 591, 865  
Walker, V. A., 173  
Ward, D., 15  
Weiss, G. M., 15, 619, 647, 1171  
Westrom, B. R., 953  
Wheeler, E. E., 1324  
Whitmore, W. T., 173  
Willms, W. D., 211  
Wilton, J. W., 49, 119, 291, 299  
Wittenberg, K. M., 769, 1143  
Woyewoda, A. D., 1321  
  
Yates, W. D. G., 1131  
Yost, G. S., 315  
Young, B. A., 173, 183  
Young, L. G., 503

## SUBJECT INDEX

Canadian Journal of Animal Science, Volume 68, 1988

---

- Abdominal fat deposition  
  genetic improvement of broiler feed efficiency, 611
- Absorption  
  ionophore feeding and net nutrient flux, 419
- Acid detergent fiber, **1327**
- Adrenal  
  circadian rhythm of cortisol in the gilt, 1105
- Adrenal axis  
  reproductive and adrenal axis development of the gilt, 1113
- Adrenal gland  
  reproductive and adrenal axis development of the gilt, 1113
- Agalactia  
  variation in piglet weights, 581  
  water intake by piglets, 603
- Aging, **1319**
- Alfalfa, **1321, 1323**  
  alfalfa forages for cows, 801  
  diet and site of digestion, 445  
  evaluation of silage bags, 831  
  relationship of rumen cations and protein to bloat, 431
- Alfalfa hay  
  fat supplementation of alfalfa for sheep, 761
- Alkali treatment  
  digestibility of treated sunflower hulls, 987
- All-concentrate diet  
  effect of calcium supplementation on beef steers, 199
- Amino acid transport  
  amino acid transport in sheep muscle, 409
- Ammonia  
  utilization of high-moisture barley, 779
- Ammoniation  
  ammoniation of high-moisture barley, 839  
  barley processing and digestion, 191
- Anabolic  
  efficacy of compudose in growing finishing feedlot heifers, 205
- Anestrus  
  housing, boar exposure and anestrus in sows, 983
- Angus  
  Brahman-British cattle crosses, 345
- Animal model  
  animal models, 639
- Anoestrus  
  photoperiode et reforme chez la truie, 1001
- Antibiotics  
  chlortetracycline as a growth promoter for broilers, 1285
- Artificial rearing  
  performance of young lambs, 993
- Aspect  
  production and utilization on fescue grasslands, 211
- Aureomycin  
  chlortetracycline as a growth promoter for broilers, 1285
- $\beta$ -glucanase  
  barley diets for broilers, 1253
- Backfat  
  growth and fat deposition curves, 57
- Bacteria  
  diet and site of digestion, 445
- Barbiturate feeding  
  sodium barbitol for young ruminants, 1187
- Barley  
  ammoniation of high-moisture barley, 839  
  barley diets for broilers, 1253  
  barley processing and digestion, 191  
  digestibility of extrusion barley in pigs, 891  
  high-moisture barley for feedlot cattle, 811  
  hulless barley for laying hens, 1261  
  SO<sub>2</sub>-treated high-moisture barley for cattle, 471  
  utilization of high-moisture barley, 779
- Barley hulls  
  canola meal and barley hulls fed to pigs, 493
- Barley straw  
  degradability of barley straw, 821
- Beef, **1320**  
  ease of calving and birth weight, 557  
  effect of calcium supplementation on beef steers, 199  
  yearly performance trends of ROP bulls, 965
- Beef bulls  
  comparison of implants for bulls, 367  
  genetic trends for tested beef bulls, 49
- Beef cattle  
  cow size interaction with growth potential of sire, 129

Page numbers in **boldface** refer to abstracts.

- feed efficiency of three-breed cross steers, 93
- genetic effects in crossbred calves, 83
- genotype  $\times$  environment interactions, beef cattle, 619
- glucose and reproduction in cows, 1079
- nutrition and reproductive hormones in beef cattle, 29
- parameter estimates for maternal traits, 119
- regression of progeny proofs on bull performance, 107
- Beef cows**
  - beef cow reproduction vs. environment, 15
  - feed inputs for lactating beef cows, 1171
  - effect of weaning date on beef cattle performance, 1035
  - postpartum interval of beef cows, 1027
- Beef steers**
  - feed additives for finishing cattle, 1131
- Behavior**
  - operant condition of oviposition, 549
  - ramp design for pigs, 41
  - responses of cows to spatial novelty, 339
- Bioavailability, 1323**
- Biotin bioavailability**
  - biotin bioavailability for pigs, 523
- Birdsfoot trefoil**
  - effect of tannins on digestion of birdsfoot trefoil, 751
- Birth weight**
  - ease of calving and birth weight, 557
- Bivariate analysis**
  - genetic parameters of lifetime reproductive traits, 1291
- Blood**
  - androstenes in boars, 565
- Blood flow**
  - ionophore feeding and net nutrient flux, 419
- Blood meal, 1324**
- Blood serum folates**
  - serum folates of white veal calves, 455
- Boar**
  - androstenes in boars, 565
  - linecross and delayed castration effects in swine, 151
- Boar exposure**
  - housing, boar exposure and anestrus in sows, 983
  - stimulation of estrus and ovulation in gilts, 377
- Boar taint**
  - 16-androstenes in boar saliva, 969
- Body composition**
  - fat utilization by young pigs, 225
- Body cooling**
  - measurement of resting and summit metabolism, 173
- Body weight**
  - variation in piglet weights, 581
  - water intake by piglets, 603
- Bovine**
  - ionophore feeding and net nutrient flux, 419
- Brahman**
  - Brahman-British cattle crosses, 345
- Brassica, 1328**
- Breast**
  - omega-3 fatty acids in broilers, 533
- Breed**
  - growth and fat deposition curves, 57
- Breed cross**
  - economic value of feeder calves, 1041
  - feed efficiency of three-breed cross steers, 93
  - postpartum interval of beef cows, 1027
- Breeds**
  - growth performance of three-way crosses, beef cattle, 647
- Broiler chicken**
  - apparent feed particle size preference by broilers, 923
  - barley diets for broilers, 1253
  - chlortetracycline as a growth promoter for broilers, 1285
  - diet and carcass composition, 241
  - diet protein for broilers, 881
  - dietary energy and temperature effects, 257
  - genetic improvement of broiler feed efficiency, 611
  - omega-3 fatty acids in broilers, 533
- Bull, 1326**
  - yearly performance trends of ROP bulls, 965
- Bull sale price, 1326**
- Bypass protein, 1324**
- Cages, 1321**
- Calcium, 1323**
  - calcium in the diets of laying hens, 1315
  - effect of calcium supplementation on beef steers, 199
  - flows of Ca, P and Mg in sheep, 853
- Calcium to phosphorus ratio**
  - effect of calcium supplementation on beef steers, 199
- Calf, 1323**
  - fish protein on calf replacer, 1155
- Calf performance**
  - genotype  $\times$  environment interactions, beef cattle, 619

- Calorimetry**  
  measurement of resting and summit metabolism, 173
- Calving, 1320**
- Cannulation**  
  reversible re-entrant cannulation of parotid duct, 305
- Canola acidulated fatty acids**  
  fat supplementation of alfalfa for sheep, 761
- Canola meal**  
  calcium in the diets of laying hens, 1315  
  canola meal and barley hulls fed to pigs, 493  
  canola meal and egg size, 907  
  lysine supplementation of pig diets, 931
- Carcass**  
  comparison of implants for bulls, 367  
  feeding and metabolism trials for pigs fed naked oats, 511  
  field pea screenings for market pigs, 577  
  linecross and delayed castration effects in swine, 151  
  performance of pigs fed cull lentils, 265  
  stress susceptibility and body composition, 139
- Carcass composition**  
  diet and carcass composition, 241  
  diet protein for broilers, 881
- Carcass criteria**  
  raw soybeans in pig diets, 275
- Carcass fat**  
  ultrasonic probing of swine, 355
- Castration**  
  linecross and delayed castration effects in swine, 151  
  16-androstenes in boar saliva, 969
- Cattle**  
  barley processing and digestion, 191  
  crab meal for beef cattle, 1237  
  degradability of barley straw, 821  
  diet and site of digestion, 445  
  fishmeal and grass silage, 1125  
  growth performance of three-way crosses, beef cattle, 647  
  high-moisture barley for feedlot cattle, 811  
  production and utilization on fescue grasslands, 211  
  pulp mill residues for cattle, 461  
  relationship of rumen cations and protein to bloat, 431  
  sulfate content of water for cattle — Manitoba, 573  
  sulfur dioxide-treated grain, 1209  
  supplementary copper for growing cattle, 1143  
  whey permeate products for steers, 1309
- Cattle (dairy)**  
  animal models, 639  
  dry cow treatment, 553
- Cattle (dairy, beef)**  
  SO<sub>2</sub>-treated high-moisture barley for cattle, 471
- Cellulosic waste**  
  pulp mill residues for cattle, 461
- Central test stations**  
  genetic trends for tested beef bulls, 49
- Cereal grains**  
  biotin bioavailability for pigs, 523
- Cereals (cooked), 1328**
- Chicks, 1326**  
  performance of chicks fed rye diets, 483
- China, 1319**
- Chlorophyll**  
  relationship of rumen cations and protein to bloat, 431
- Chlortetracycline**  
  chlortetracycline as a growth promoter for broilers, 1285  
  feed additives for finishing cattle, 1131
- Choice experiments**  
  ramp design for pigs, 41
- Chronic cannulation**  
  model for studying exocrine pancreatic function, 953
- Chymotrypsin, 1325**
- Circadian rhythm**  
  circadian rhythm of cortisol in the gilt, 1105
- Clonidine**  
  endocrine responses to clonidine, 655
- Clotting**  
  performance of young lambs, 993
- Cluster analysis**  
  structural and physical inhibition of digestion, 787
- Coagulation**  
  performance of young lambs, 993
- Cochette**  
  photopériode et réforme chez la truie, 1001
- Cockerel, 1326**
- Cold resistance**  
  measurement of resting and summit metabolism, 173
- Cold stress**  
  effects of stresses on forestomach contractions, 399
- Colostrum-deprived**  
  bovine or porcine immunoglobulins for piglets, 1277
- Compensatory feed intake**  
  genetic improvement of broiler feed efficiency, 611

- Complementarity**  
cow size interaction with growth potential of sire, 129
- Compudose**  
efficacy of compudose in growing finishing feedlot heifers, 205
- Computer, 1325**
- Computerization, 1325**
- Conditioning, 1319**
- Conformation**  
animal models, 639
- Conmar 80**  
fish protein in pig creep and weaner diets, 1163  
fish protein on calf replacer, 1155
- Consumption, 1323**
- Copper**  
ewe-lamb responses to dietary molybdenum, 769
- Copper oxide needles**  
supplementary copper for growing cattle, 1143
- Copper sulfate**  
supplementary copper for growing cattle, 1143
- Corn silage**  
alfalfa forages for cows, 801
- Correlation of sire proofs**  
ease of calving and birth weight, 557
- Corrélation**  
paramètres génétiques chez le porc, 1063
- Correlations**  
test day correlations, 295
- Cortisol**  
circadian rhythm of cortisol in the gilt, 1105  
cortisol in lactating sows receiving GRF and TRF, 689
- Cortisol binding globulin**  
circadian rhythm of cortisol in the gilt, 1105
- Cost, 1325**
- Cow, 1320**  
responses of cows to spatial novelty, 339
- Cow (dairy), 1321**  
ammoniation of high-moisture barley, 839  
growth hormone-releasing factor in dairy cows, 731  
growth hormone-releasing factor in dairy cows, 741  
uterine involution in beef cows, 669
- Cow efficiency**  
cow size interaction with growth potential of sire, 129
- Cow productivity**  
genotype  $\times$  environment interactions, beef cattle, 619
- Crab meal, 1327**  
crab meal for beef cattle, 1237
- Creep diets**  
fish protein in pig creep and weaner diets, 1163
- Croissance**  
paramètres génétiques chez le porc, 1063
- Cross breeding**  
growth performance of three-way crosses, beef cattle, 647
- Crossbreds**  
feed inputs for lactating beef cows, 1171
- Crossbreeding**  
Brahman-British cattle crosses, 345  
genetic effects in crossbred calves, 83  
reproduction in DLS, Finnsheep and crosses, 69
- Crude protein, 1327**
- Crumbles**  
apparent feed particle size preference by broilers, 923
- Dairy**  
test day correlations, 295
- Dairy production**  
red versus black Holsteins, 299
- Dehydration**  
water intake by piglets, 603
- Development**  
circadian rhythm of cortisol in the gilt, 1105  
fetal development and dietary fats, 249  
model for studying exocrine pancreatic function, 953  
reproductive and adrenal axis development of the gilt, 1113
- Diet**  
fetal development and dietary fats, 249  
chlortetracycline as a growth promoter for broilers, 1285
- Diet protein**  
diet protein for broilers, 881
- Digesta, 1324**
- Digestibility**  
canola meal and barley hulls fed to pigs, 493  
digestibility of extrusion barley in pigs, 891  
digestibility of treated sunflower hulls, 987  
effect of tannins on digestion of birdsfoot trefoil, 751  
fat supplementation of alfalfa for sheep, 761  
fat utilization by young pigs, 225  
performance of young lambs, 993  
pulp mill residues for cattle, 461  
triticale and growing pigs, 503
- Digestible energy:digestible protein**  
skim milk for veal, 1069



- Digestion  
  flows of Ca, P and Mg in sheep, 853
- Direct effects  
  genetic effects in crossbred calves, 83  
  parameter estimates for maternal traits, 119
- Dogfish  
  ensiling dogfish offal for monogastrics, 873
- Dorset-Leicester-Suffolk sheep  
  reproduction in DLS, Finnsheep and crosses, 69
- Drinking water  
  minerals and nitrates in water for swine, 997  
  water intake by piglets, 603
- Dry cow treatment, 553
- Dry matter digestibility  
  evaluation of timothy cultivars, 1121
- Drylot  
  postpartum interval of beef cows, 1027
- Duodenum  
  diet and site of digestion, 445
- Ease of calving  
  ease of calving and birth weight, 557
- Economic  
  value of feeder calves, 1041
- Egg size  
  canola meal and egg size, 907
- Eicosapentaenoic acid  
  omega-3 fatty acids in broilers, 533
- Embryo survival  
  nutrition and reproductive performance in gilts, 941
- Endoscopy, 1324
- Energy  
  dietary energy and temperature effects, 257  
  glucose and reproduction in cows, 1079  
  nutrition and reproductive hormones in beef cattle, 29
- Energy requirements  
  feed inputs for lactating beef cows, 1171
- Energy utilization, 1325
- Entry rate  
  phenylalanine metabolism in sheep, 711
- Environment, 1325  
  beef cow reproduction vs. environment, 15
- Épreuve à domicile  
  variations environnementales chez le porc, 1051
- Essential amino acids  
  amino acids in turkey rations, 899
- Estradiol  
  efficacy of compudose in growing finishing feedlot heifers, 205  
  estradiol-induced estrus in gilts, 979  
  the surge release of LH and FSH in ewes, 1089
- Estradiolbenzoate  
  stimulation of estrus and ovulation in gilts, 377
- Estrus  
  stimulation of estrus and ovulation in gilts, 377
- Estrus synchronization  
  prostaglandin F for naturally bred beef heifers, 1301
- Euthanasia, 1326
- Ewe, 1322  
  ewe-lamb responses to dietary molybdenum, 769  
  lasalocid and production of gestating ewes, 439
- Excitability  
  responses of cows to spatial novelty, 339
- Excreta viscosity  
  performance of chicks fed rye diets, 483
- Exocrine pancreas  
  model for studying exocrine pancreatic function, 953
- Export, 1319
- Extrusion cooking  
  digestibility of extrusion barley in pigs, 891
- Fasting  
  stress susceptibility and body composition, 139
- Fat  
  fat utilization by young pigs, 225  
  nutrition and reproductive performance in gilts, 941  
  test day correlations, 295
- Fatty acids  
  feeding and metabolism trials for pigs fed naked oats, 511
- Faunation  
  flows of Ca, P and Mg in sheep, 853
- Fecudin, 1323
- Feed, 1320
- Feed conversion, 1324  
  high-moisture barley for feedlot cattle, 811
- Feed efficiency  
  crab meal for beef cattle, 1237  
  feed efficiency of three-breed cross steers, 93  
  genetic improvement of broiler feed efficiency, 611
- Feeder steer  
  economic value of feeder calves, 1041
- Feeder value  
  economic value of feeder calves, 1041
- Feeding method  
  mixing or alternating protein supplements, 569
- Feeding value, 1327
- Feeds  
  structural and physical inhibition of digestion, 787

- Fetal growth  
  reproductive performance in protein supplemented gilts, 677
- Fetus  
  fetal development and dietary fats, 249
- Fighting  
  ontogeny of teat fidelity in pigs, 325
- Finnsheep  
  reproduction in DLS, Finnsheep and crosses, 69
- Fish, 1325
- Fish meal, 1323  
  fish protein in pig creep and weaner diets, 1163
- Fish oil, 1324
- Fish silage, 1321
- Fishmeal  
  fishmeal and grass silage, 1125
- Fluorometric analysis  
  fluorometric analysis of terbium, 1305
- Flushing, 1328  
  nutrition and reproductive performance in gilts, 941
- Follicle stimulating hormone, 1322  
  the surge release of LH and FSH in ewes, 1089
- Follicles  
  sampling follicles in gilts, 1297
- Forage, 1327
- Forestomach contractions  
  effects of stresses on forestomach contractions, 399
- Forestomach movements  
  respiration and movements of the ruminant stomach, 973
- Fungal enzyme  
  performance of chicks fed rye diets, 483
- Furring silver fox, 1322
- Gain  
  high-moisture barley for feedlot cattle, 811
- Gastrointestinal tract  
  barley processing and digestion, 191
- Genetic and phenotypic correlations  
  parameter estimates in Simmental cattle, 291
- Genetic correlation  
  parameter estimates for maternal traits, 119
- Genetic parameters  
  genetic parameters of lifetime reproductive traits, 1291
- Genetic trend  
  genetic trends for tested beef bulls, 49
- Genetic trends  
  red versus black Holsteins, 299
- Genotype  $\times$  environment interaction  
  genotype  $\times$  environment interactions, beef cattle, 619
- Gestation  
  lasalocid and production of gestating ewes, 439
- Gilt  
  circadian rhythm of cortisol in the gilt, 1105  
  estradiol-induced estrus in gilts, 979  
  PGH and ovulation rate in gilts, 1097  
  reproductive and adrenal axis development of the gilt, 1113  
  reproductive performance in protein supplemented gilts, 677  
  sampling follicles in gilts, 1297  
  sexual maturation, puberty and litter size in gilts, 1
- Glucose  
  glucose and reproduction in cows, 1079  
  phenylalanine metabolism in sheep, 711, 721
- Glucose tolerance  
  reproductive performance in protein supplemented gilts, 677
- GnRH  
  effects of GnRH on luteinizing hormone release, 359
- Goat, 1323
- Grain  
  crab meal for beef cattle, 1237
- Gras dorsal  
  paramètres génétiques chez le porc, 1063
- Grass silage  
  fishmeal and grass silage, 1125
- GRF  
  cortisol in lactating sows receiving GRF and TRF, 689
- Growing pigs  
  triticale and growing pigs, 503
- Growth  
  ewe-lamb responses to dietary molybdenum, 769  
  field pea screenings for market pigs, 577  
  fishmeal and grass silage, 1125  
  growth and fat deposition curves, 57  
  growth performance of three-way crosses, beef cattle, 647  
  linecross and delayed castration effects in swine, 151  
  performance of pigs fed cull lentils, 265
- Growth hormone  
  endocrine responses to clonidine, 655  
  growth hormone-releasing factor in dairy cows, 731  
  PGH and ovulation rate in gilts, 1097  
  plasma insulin and GH in lambs fed monensin, 165

- Growth hormone and thyrotropin-releasing factors  
ST, PRL, T3, T4 secretion after pGRF and/or  
TRF stimulation, 699
- Growth hormone-releasing factor  
growth hormone-releasing factor in dairy cows,  
731  
growth hormone-releasing factor in dairy cows,  
741
- Gutfill  
stress susceptibility and body composition, 139
- Hair sheep  
effects of GnRH on luteinizing hormone release,  
359
- Hay, 1323
- Head movement  
responses of cows to spatial novelty, 339
- Heart rate  
effects of stresses on forestomach contractions,  
399
- Heavy calves, 1324
- Heifer  
prostaglandin F for naturally bred beef heifers,  
1301
- Heifers, 1323  
efficacy of compudose in growing finishing  
feedlot heifers, 205  
feed additives for finishing cattle, 1131
- Hens (laying), 1327
- Hereford  
Brahman-British cattle crosses, 345
- Héritabilités  
paramètres génétiques chez le porc, 1063
- Heritability  
parameter estimates for maternal traits, 119  
parameter estimates in Simmental cattle, 291  
regression of progeny proofs on bull  
performance, 107
- Heterosis  
genetic effects in crossbred calves, 83  
reproduction in DLS, Finnsheep and crosses, 69
- High-moisture barley  
ammoniation of high-moisture barley, 839  
high-moisture barley for feedlot cattle, 811  
utilization of high-moisture barley, 779
- High-moisture grain  
sulfur dioxide-treated grain, 1209
- Hindlimb  
phenylalanine metabolism in sheep, 711
- Hog  
minerals and nitrates in water for swine, 997
- Holstein (black and white)  
red versus black Holsteins, 299
- Holstein (red and white)  
red versus black Holsteins, 299
- Hormones  
comparison of implants for bulls, 367  
nutrition and reproductive hormones in beef  
cattle, 29  
nutrition and reproductive performance in gilts,  
941
- Housing  
housing, boar exposure and anestrus in sows,  
983  
ramp design for pigs, 41
- Hull-less barley  
hull-less barley for laying hens, 1261
- Hull-less oats, 1328
- Hypothermia  
recovery of hypothermic lambs, 183
- Immunoglobulins  
bovine or porcine immunoglobulins for piglets,  
1277
- Implant  
efficacy of compudose in growing finishing  
feedlot heifers, 205
- Implants  
comparison of implants for bulls, 367
- Improvement, 1323
- In sacco  
pulp mill residues for cattle, 461
- In situ degradability  
degradability of barley straw, 821
- In vitro digestibility  
commercial hay preservatives, 1195
- Indice  
paramètres génétiques chez le porc, 1063
- Injectable copper  
supplementary copper for growing cattle, 1143
- Insulin  
endocrine responses to clonidine, 655  
phenylalanine metabolism in sheep, 711, 721  
plasma insulin and GH in lambs fed monensin,  
165
- Ionophore  
ionophore feeding and net nutrient flux, 419
- Ion  
relationship of rumen cations and protein to  
bloat, 431
- Isobutyric acid  
degradability of barley straw, 821
- Kale, 1328
- Ketogenesis  
rumen epithelial metabolism, 1245
- Kids  
sodium barbital for young ruminants, 1187

**Lactation**

- alfalfa forages for cows, 801
- cortisol in lactating sows receiving GRF and TRF, 689
- diet and site of digestion, 445
- ewe-lamb responses to dietary molybdenum, 769
- feed inputs for lactating beef cows, 1171
- nutrition and sow prolificacy, 283
- sow nutrition and osteochondrosis in offspring, 865

**Lamb**

- ewe-lamb responses to dietary molybdenum, 769
- lasalocid and production of gestating ewes, 439
- performance of young lambs, 993
- plasma insulin and GH in lambs fed monensin, 165
- recovery of hypothermic lambs, 183
- sodium barbital for young ruminants, 1187

**Lambing percent, 1323****Lasalocid**

- feed additives for finishing cattle, 1131
- lasalocid and production of gestating ewes, 439

**Laying hens, 1321, 1325**

- apparent feed particle size preference by laying hens, 915
- calcium in the diets of laying hens, 1315
- canola meal and egg size, 907
- hulless barley for laying hens, 1261
- operant condition of oviposition, 549

**Leakage**

- rumen cannulation technique in sheep, 561

**Lean yield**

- economic value of feeder calves, 1041

**Lentils**

- performance of pigs fed cull lentils, 265

**Lifespan**

- beef cow reproduction vs. environment, 15

**Lignin**

- structural and physical inhibition of digestion, 787

**Limestone**

- effect of calcium supplementation on beef steers, 199

**Linecross**

- linecross and delayed castration effects in swine, 151

**Litter**

- production and utilization on fescue grasslands, 211

**Litter size**

- sexual maturation, puberty and litter size in gilts, 1

**Live performance**

- raw soybeans in pig diets, 275

**Liver abscess**

- effect of calcium supplementation on beef steers, 199

**Loading**

- ramp design for pigs, 41

**Luteal activity**

- effects of GnRH on luteinizing hormone release, 359

**Luteinizing hormone**

- glucose and reproduction in cows, 1079
- light stimulation of leghorns, 1267
- the surge release of LH and FSH in ewes, 1089

**Lysine**

- lysine supplementation of pig diets, 931
- nutrition and reproductive performance in gilts, 941
- response of piglets to suboptimal protein diets, 311

**Magnesium**

- flows of Ca, P and Mg in sheep, 853

**Management, 1325****Manitoba**

- sulfate content of water for cattle — Manitoba, 573

**Marbling**

- skim milk for veal, 1069

**Markers**

- barley processing and digestion, 191

**Mastitis**

- dry cow treatment, 553

**Maternal effects**

- genetic effects in crossbred calves, 83

**Maternal nutrition**

- parameter estimates for maternal traits, 119
- sow nutrition and osteochondrosis in offspring, 865

**Maturity, 1323****Meat, 1319****Meat quality, 1321**

- feeding and metabolism trials for pigs fed naked oats, 511
- performance of pigs fed cull lentils, 265
- raw soybeans in pig diets, 275

**Metabolic heat**

- recovery of hypothermic lambs, 183

**Metabolism**

- feeding and metabolism trials for pigs fed naked oats, 511
- glucose and reproduction in cows, 1079

- rumen epithelial metabolism, 1245
- Methionine
  - response of piglets to suboptimal protein diets, 311
- Microbial changes
  - commercial hay preservatives, 1195
- Milk
  - test day correlations, 295
- Milk-fed calf
  - rumen epithelial metabolism, 1245
- Milk production
  - growth hormone-releasing factor in dairy cows, 741
- Milk replacer
  - bovine or porcine immunoglobulins for piglets, 1277
  - fish protein on calf replacer, 1155
  - performance of young lambs, 993
- Mineral
  - minerals and nitrates in water for swine, 997
- Mink, 1319
- Mixing stress
  - osteocondrosis and scanning electron microscopy, 591
- Molybdenum
  - ewe-lamb responses to dietary molybdenum, 769
  - supplementary copper for growing cattle, 1143
- Monensin
  - feed additives for finishing cattle, 1131
  - plasma insulin and GH in lambs fed monensin, 165
- Monogastric
  - ensiling dogfish offal for monogastrics, 873
- Mortality
  - variation in piglet weights, 581
- Movement, 1324
- Muscle
  - amino acid transport in sheep muscle, 409
- Muzzle
  - rumination in sheep, 387
- Natural breeding
  - prostaglandin F for naturally bred beef heifers, 1301
- Neonates
  - recovery of hypothermic lambs, 183
- Neutral detergent fiber
  - structural and physical inhibition of digestion, 787
- Nitrates
  - minerals and nitrates in water for swine, 997
- Nitrotoxins
  - lack of a thiamine effect on nitropropanol toxicity in rats, 315
- Non gestation
  - photoperiode et reforme chez la truie, 1001
- Nucleic acids
  - reproductive performance in protein supplemented gilts, 677
- Nutrient preference
  - apparent feed particle size preference by laying hens, 915
- Nutrient retention
  - performance of chicks fed rye diets, 483
- Nutrition, 1325
  - nutrition and reproductive hormones in beef cattle, 29
  - nutrition and sow prolificacy, 283
- OAC Wintri triticales
  - triticales and growing pigs, 503
- Oat (hull-less), 1328
  - feeding and metabolism trials for pigs fed naked oats, 511
- Omega-3 fatty acids, 1324
  - in broilers, 533
- Operant conditioning
  - operant condition of oviposition, 549
- Organs
  - stress susceptibility and body composition, 139
- Osteochondrosis
  - osteocondrosis and scanning electron microscopy, 591
  - sow nutrition and osteochondrosis in offspring, 865
- Ovariectomized ewe
  - the surge release of LH and FSH in ewes, 1089
- Ovary
  - sampling follicles in gilts, 1297
- Oviposition
  - operant condition of oviposition, 549
- Ovulation
  - estradiol-induced estrus in gilts, 979
  - stimulation of estrus and ovulation in gilts, 377
- Ovulation rate
  - nutrition and reproductive performance in gilts, 941
  - PGH and ovulation rate in gilts, 1097
- Parotid gland
  - reversible re-entrant cannulation of parotid duct, 305
- Parotid secretion
  - reversible re-entrant cannulation of parotid duct, 305
- Particle breakdown, 1324
  - rumination in sheep, 387

- Particle preference  
  apparent feed particle size preference by laying hens, 915
- Particle size preference  
  apparent feed particle size preference by broilers, 923
- Pasture bloat  
  relationship of rumen cations and protein to bloat, 431
- Pea  
  field pea screenings for market pigs, 577
- Pellets  
  apparent feed particle size preference by broilers, 923
- Penicillin  
  performance of chicks fed rye diets, 483
- Performance, **1320, 1323**  
  diet protein for broilers, 881  
  fat utilization by young pigs, 225  
  fish protein on calf replacer, 1155  
  mixing or alternating protein supplements, 569  
  triticale and growing pigs, 503
- Performance test  
  regression of progeny proofs on bull performance, 107
- Phenylalanine  
  phenylalanine metabolism in sheep, 711
- Phleum pratense* L.  
  evaluation of timothy cultivars, 1121
- Phosphorus, **1327**  
  flows of Ca, P and Mg in sheep, 853
- Photoperiod, **1322**
- Photopériode  
  effet de la lumière à court et long terme chez la truie, 1015  
  photopériode et réforme chez la truie, 1001
- Phytic acid  
  calcium in the diets of laying hens, 1315
- Pig, **1321**  
  canola meal and barley hulls fed to pigs, 493  
  digestibility of extrusion barley in pigs, 891  
  feeding and metabolism trials for pigs fed naked oats, 511  
  fetal development and dietary fats, 249  
  field pea screenings for market pigs, 577  
  growth and fat deposition curves, 57  
  linecross and delayed castration effects in swine, 151  
  lysine supplementation of pig diets, 931  
  model for studying exocrine pancreatic function, 953  
  performance of pigs fed cull lentils, 265  
  potato steam peel for pigs, 233  
  ramp design for pigs, 41  
  ST, PRL, T3, T4 secretion after pGRF and/or TRF stimulation, 699  
  stress susceptibility and body composition, 139  
  raw soybeans in pig diets, 275
- Piglet  
  bovine or porcine immunoglobulins for piglets, 1277  
  ontogeny of teat fidelity in pigs, 325  
  response of piglets to suboptimal protein diets, 311  
  variation in piglet weights, 581  
  water intake by piglets, 603
- Plasma constituents  
  growth hormone-releasing factor in dairy cows, 741
- Polyphagia  
  sodium barbital for young ruminants, 1187
- Porcs  
  paramètres génétiques chez le porc, 1063  
  variations environnementales chez le porc, 1051
- Postmortem, **1319**
- Postpartum  
  effects of GnRH on luteinizing hormone release, 359  
  uterine involution in beef cows, 669
- Postpartum interval  
  postpartum interval of beef cows, 1027
- Potassium transport  
  phenylalanine metabolism in sheep, 721
- Potato, **1325**  
  potato steam peel for pigs, 233
- Preference  
  production and utilization on fescue grasslands, 211
- Preservative  
  SO<sub>2</sub>-treated high-moisture barley for cattle, 471
- Preservatives  
  sulfur dioxide-treated grain, 1209
- Pressure  
  respiration and movements of the ruminant stomach, 973
- Prestarter pigs, **1328**
- Processing  
  barley processing and digestion, 191  
  ensiling dogfish offal for monogastrics, 873
- Productivité  
  effet de la lumière à court et long terme chez la truie, 1015
- Progeny test  
  regression of progeny proofs on bull performance, 107
- Progesterone  
  the surge release of LH and FSH in ewes, 1089

- Prolactin
  - endocrine responses to clonidine, 655
  - ST, PRL, T3, T4 secretion after pGRF and/or TRF stimulation, 699
- Propionic acid treatment
  - alfalfa forages for cows, 801
- Prostaglandin  $F_{2\alpha}$ 
  - prostaglandin  $F_{2\alpha}$  for naturally bred beef heifers, 1301
  - uterine involution in beef cows, 669
- Protease inhibitor, 1325
- Protein
  - reproductive performance in protein supplemented gilts, 677
- Protein deposition
  - diet and carcass composition, 241
- Protein level
  - canola meal and barley hulls fed to pigs, 493
- Protein requirement
  - amino acids in turkey rations, 899
- Protein sources
  - mixing or alternating protein supplements, 569
- Protein supplements
  - biotin bioavailability for pigs, 523
- Protein synthesis
  - phenylalanine metabolism in sheep, 721
- Psychological stress
  - effects of stresses on forestomach contractions, 399
- Puberty
  - sexual maturation, puberty and litter size in gilts, 1
- Pullet
  - light stimulation of leghorns, 1267
- Ramp design
  - ramp design for pigs, 41
- Rang de portée
  - effet de la lumière à court et long terme chez la truie, 1015
- Range
  - postpartum interval of beef cows, 1027
- Rape, 1328
- Rare earth
  - fluorometric analysis of terbium, 1305
- Rat
  - lack of a thiamine effect on nitropropanol toxicity in rats, 315
- Rate of passage
  - fluorometric analysis of terbium, 1305
- Receptors
  - endocrine responses to clonidine, 655
- Recommendations
  - testicular development of Salers bulls, 961
- Record of performance, 1326
  - yearly performance trends of ROP bulls, 965
- Redfish meal
  - omega-3 fatty acids in broilers, 533
- Réforme
  - photopériode et réforme chez la truie, 1001
- Rehydrated alfalfa hay
  - commercial hay preservatives, 1195
- Repeatabilities
  - reproduction in DLS, Finnsheep and crosses, 69
- Reproduction, 1320, 1322
  - effect of weaning date on beef cattle performance, 1035
  - glucose and reproduction in cows, 1079
  - nutrition and reproductive hormones in beef cattle, 29
  - reproduction in DLS, Finnsheep and crosses, 69
- Reproductive axis
  - reproductive and adrenal axis development of the gilt, 1113
- Reproductive performance
  - beef cow reproduction vs. environment, 15
  - nutrition and sow prolificacy, 283
- Reproductive trait
  - genetic parameters of lifetime reproductive traits, 1291
- Residual forage
  - production and utilization on fescue grasslands, 211
- Respiration
  - respiration and movements of the ruminant stomach, 973
- Resting metabolism
  - measurement of resting and summit metabolism, 173
- Rewarming
  - recovery of hypothermic lambs, 183
- Rumen
  - diet and site of digestion, 445
- Rumen cannulae
  - rumen cannulation technique in sheep, 561
- Rumen epithelium
  - rumen epithelial metabolism, 1245
- Rumen gas, 1323
- Rumen retention time
  - rumination in sheep, 387
- Ruminant
  - respiration and movements of the ruminant stomach, 973
  - reversible re-entrant cannulation of parotid duct, 305
  - rumen cannulation technique in sheep, 561
- Rumination
  - rumination in sheep, 387



- Rye**  
performance of chicks fed rye diets, 483
- Salers bulls**  
testicular development of Salers bulls, 961
- Salivary steroids**  
16-androstenes in boar saliva, 969
- Salivation**  
reversible re-entrant cannulation of parotid duct, 305
- Salmon (Atlantic), 1325**
- Scanning electron microscopy**  
osteochondrosis and scanning electron microscopy, 591
- Screenings**  
field pea screenings for market pigs, 577
- Scrotal circumference**  
testicular development of Salers bulls, 961
- Season, 1320**  
androstenes in boars, 565
- Selection**  
parameter estimates in Simmental cattle, 291
- Sex**  
growth and fat deposition curves, 57
- Sexual maturation**  
sexual maturation, puberty and litter size in gilts, 1
- Sexual maturity**  
light stimulation of leghorns, 1267
- Sheep, 1324, 1328**  
amino acid transport in sheep muscle, 409  
digestibility of treated sunflower hulls, 987  
fat supplementation of alfalfa for sheep, 761  
flows of Ca, P and Mg in sheep, 853  
lasalocid and production of gestating ewes, 439  
mixing or alternating protein supplements, 569  
phenylalanine metabolism in sheep, 711, 721  
rumen cannulation technique in sheep, 561  
rumination in sheep, 387
- Shorthorn**  
Brahman-British cattle crosses, 345
- Silage, 1323**  
alfalfa forages for cows, 801  
ensiling dogfish offal for monogastrics, 873  
fish silage, 1125  
fishmeal and grass silage, 1125  
quality, 831
- Silage bags**  
evaluation of silage bags, 831
- Silver fox, 1327**
- Sire evaluation**  
ease of calving and birth weight, 557
- 16-androstenes**  
16-androstenes in boar saliva, 969  
androstenes in boars, 565
- Slaughter weight**  
ultrasonic probing of swine, 355
- Social environment**  
androstenes in boars, 565
- Sodium**  
phenylalanine metabolism in sheep, 721
- Sodium metabisulfite**  
sulfur dioxide-treated grain, 1209
- Somatotropin**  
ST, PRL, T3, T4 secretion after pGRF and/or TRF stimulation, 699
- Sources de variation**  
variations environnementales chez le porc, 1051
- Sow**  
cortisol in lactating sows receiving GRF and TRF, 689  
housing, boar exposure and anestrus in sows, 983  
nutrition and sow prolificacy, 283
- Soybean**  
raw soybeans in pig diets, 275
- Soybean meal, 1323**  
crab meal for beef cattle, 1237
- Spatial novelty**  
responses of cows to spatial novelty, 339
- Specific fragility**  
rumination in sheep, 387
- Spectrophotometer, 1327**
- Sperm chromatin structure**  
comparison of implants for bulls, 367
- Stade physiologique**  
effet de la lumière à court et long terme chez la truie, 1015
- Station test, 1326**
- Steam peel**  
potato steam peel for pigs, 233
- Steers, 1320**  
feed efficiency of three-breed cross steers, 93
- Stocking density, 1321**
- Stocking rate**  
production and utilization on fescue grasslands, 211
- Stress, 1321**
- Stress susceptibility**  
stress susceptibility and body composition, 139
- Suckling behavior**  
ontogeny of teat fidelity in pigs, 325  
variation in piglet weights, 581
- Sulfate**  
sulfate content of water for cattle — Manitoba, 573



- Sulfur**  
 sulfate content of water for cattle — Manitoba, 573  
 supplementary copper for growing cattle, 1143
- Sulfur dioxide**  
 SO<sub>2</sub>-treated high-moisture barley for cattle, 471  
 sulfur dioxide-treated grain, 1209  
 utilization of high-moisture barley, 779
- Summit metabolism**  
 measurement of resting and summit metabolism, 173
- Sunflower hulls**  
 digestibility of treated sunflower hulls, 987
- Superovulation, 1322**
- Supplemental heat**  
 recovery of hypothermic lambs, 183
- Survey, 1326**
- Swine**  
 biotin bioavailability for pigs, 523  
 fish protein in pig creep and weaner diets, 1163  
 osteochondrosis and scanning electron microscopy, 591  
 sow nutrition and osteochondrosis in offspring, 865  
 ultrasonic probing of swine, 355
- System A**  
 amino acid transport in sheep muscle, 409
- System ASC**  
 amino acid transport in sheep muscle, 409
- Tallow**  
 fat supplementation of alfalfa for sheep, 761
- Tannin**  
 effect of tannins on digestion of birdsfoot trefoil, 751
- Teat disputes**  
 ontogeny of teat fidelity in pigs, 325
- Teat order**  
 ontogeny of teat fidelity in pigs, 325
- Temperament**  
 responses of cows to spatial novelty, 339
- Temperature**  
 dietary energy and temperature effects, 257
- Temperature (environmental), 1327**
- Tenderness, 1319**  
 skim milk for veal, 1069
- Terbium**  
 fluorometric analysis of terbium, 1305
- Test station, 1326**
- Test-day**  
 test day correlations, 295
- Testicular development**  
 testicular development of Salers bulls, 961
- Testosterone**  
 androstenes in boars, 565
- Thiamine**  
 lack of a thiamine effect on nitropropanol toxicity in rats, 315
- Thigh**  
 omega-3 fatty acids in broilers, 533
- 3-nitropropanol**  
 lack of a thiamine effect on nitropropanol toxicity in rats, 315
- 3-nitropropionic acid**  
 lack of a thiamine effect on nitropropanol toxicity in rats, 315
- Threonine**  
 response of piglets to suboptimal protein diets, 311
- Thyroid**  
 lysine supplementation of pig diets, 931
- Thyroid hormones**  
 ST, PRL, T3, T4 secretion after pGRF and/or TRF stimulation, 699
- Timothy**  
 evaluation of timothy cultivars, 1121
- Tissue residue**  
 feed additives for finishing cattle, 1131
- Toxicity**  
 lack of a thiamine effect on nitropropanol toxicity in rats, 315
- TRF**  
 cortisol in lactating sows receiving GRF and TRF, 689
- True digestibility**  
 structural and physical inhibition of digestion, 787
- Truie**  
 effet de la lumière à court et long terme chez la truie, 1015  
 photopériode et réforme chez la truie, 1001
- Trypsin, 1325**
- Tryptophan**  
 response of piglets to suboptimal protein diets, 311
- Turkey**  
 amino acids in turkey rations, 899  
 dietary energy and temperature effects, 257
- Ultrasonic probes**  
 ultrasonic probing of swine, 355
- Urea, 1324**  
 alfalfa forages for cows, 801
- Uterine involution**  
 uterine involution in beef cows, 669
- Vaccination, 1323**

- Variance
  - parameter estimates for maternal traits, 119
- Veal, 1319
- Veal calves
  - skim milk for veal, 1069
- Vitamin B<sub>12</sub>
  - serum folates of white veal calves, 455
- Vitamin E, 1321
- Voluntary intake
  - evaluation of timothy cultivars, 1121
- Water
  - sulfate content of water for cattle —
    - Manitoba, 573
  - water intake by piglets, 603
- Weaned pigs
  - fat utilization by young pigs, 225
- Weaner diets
  - fish protein in pig creep and weaner diets, 1163
- Weaning date
  - effect of weaning date on beef cattle performance, 1035
- Weight changes
  - effect of weaning date on beef cattle performance, 1035
- Weight gain
  - ontogeny of teat fidelity in pigs, 325
- Welfare
  - rumen cannulation technique in sheep, 561
- Whey
  - whey permeate products for steers, 1309
- Whey products
  - whey permeate products for steers, 1309
- White veal calves
  - serum folates of white veal calves, 455
- Wilted silage
  - alfalfa forages for cows, 801
- Winter range
  - lasalocid and production of gestating ewes, 439
- Winter, 1320
- Wood
  - pulp mill residues for cattle, 461
- Zeranol dosage, 1320
- Zinc
  - lysine supplementation of pig diets, 931

